gardless of their use. All wells within designated management areas, with the exception of wells used for domestic or stock watering purposes, have to be metered and the amount withdrawn reported yearly. By 1990, each category of water user—municipal, industrial, agricultural, mining, for example—must limit its water usage to the amount set for each section by the Department of Water Resources. As a result, well production information will be readily available.

Besides knowledge of extraction that is occurring, states need to be aware of activities relating to water reuse and artificial aquifer recharge. Increasingly, in the parts of the country where water supplies are being depleted or contaminated, water reuse and recharge are becoming economically viable and attractive. In the Phoenix and Tucson, Arizona, Active Management Areas, for example, virtually total reuse of water supplies is planned to occur by 2025. Any state where effluent is being reused and artificial recharge is taking place should be alert to the impact on ground water quality and provide necessary protection.

In Florida, ground water allocations are managed by the seven regional water management districts. The districts administer a permitting system and collect extensive water use data. At least one district, the South Florida Water Management District, has a computerized data base, with electronically monitored water levels in the vicinity of wellfields. Computer-generated maps showing zones of influence around pumping wells can be generated nearly instantaneously. This system was recently used to develop maps of zones of influence for submission to the state in a petition for sole-source aquifer designation under the new classification system.

Because of the advanced nature of the data base, the state of Florida is considering modeling zones of influence for all public wells as a means of implementing its classification system. These areas, as well as critical recharge areas to be mapped by the state, would be classified in the highest category for use and protection. If implemented, this system would be the first state-mapped wellfield protection requirement implemented through a classification system. It would also be the first state-level system utilizing hydrogeologic flow system data in this context.

Potential Contamination Sources and Characteristics

In order to protect ground water quality, it is important to know the pattern of production or use of potential contaminating substances. To be most useful, a data base on potential sources of pollution should contain information on (1) the quantities and chemical composition of the material, (2) the type and spatial location of its use, (3) the industry or reason for its